

**METHOD, APPARATUS, AND SYSTEM FOR DATA
TRANSMISSION AND PROCESSING IN A WIRELESS
COMMUNICATION ENVIRONMENT**

ABSTRACT

According to one aspect of the present invention, a method is provided in which indications of signal quality associated with each of the plurality of user stations are received. Multiple user stations (e.g., a first user station and a second user station) are selected to receive data from a base station based on the indications of signal quality associated with the plurality of the user stations. A first packet is constructed which contains signaling data for the first user station and application data for the second user station. A second packet which contains application data for the first user station is super-imposed upon the first packet. The first and second packets are transmitted simultaneously from the base station to the first and second user stations.